REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Objection to Claims 29, 31-33, 37, and 39-42

This objection has been addressed by amending the claims to consistently recite an electric rather than magnetic field structure, as suggested in item 3 on page 2 of the Official Action.

2. Rejection of Claims 22-24, 27, 29, 34-36, 39, and 43 Under 35 USC §102(b) in view of U.S. Patent No. 3,165,656 (Korthaus)

This rejection is respectfully traversed on the grounds that the Korthaus fails to disclose or suggest displacement of the rotor relative to the stator ***as the shaft rotates***, as claimed, for the purpose of varying electrical characteristics of the machine, much less displacement that results from reverse torque caused by interaction between the rotor, stator, *and* load. Instead, the Korthaus patent teaches displacement of a rotor when an overload condition occurs, in order to activate a clutch to ***disengage*** **the rotor** and ***stop*** **the motor** rather than change its characteristics.

As explained in col. 4, lines 19-44, the rotor 12 of Korthaus is displaced axially by a small distance during an overload (for example, when a door being opened reaches the end of its travel), so as to activate a clutch ("*. . .By this arrangement, the flow of forces between the motor output shaft 14 and the rotor 12 is* ***interrupted***"). This displacement occurs because the shaft 14 has *stopped* rotating (in which case sleeve 13 rotates around shaft 14 a short distance to move the rotor and disengage it from the output shaft). **The displacement has *no* effect on motor characteristics since the rotor is disengaged and the motor is *switched off* whenever the rotor is displaced**. Furthermore, the displacement is so small as to have no effect on motor characteristics even if the motor continued to be connected to the load and running (which it is not because the result would be a burned out motor). Thus, the arrangement of Korthaus if fundamentally different than that of the claimed invention.

In the claimed invention, the axial position of the rotor relative to the stator is continuously adjusted in response to reverse torque caused by interaction between the rotor, stator, and load, thereby changing electrical characteristics of the device depending on the reverse torque. As a result, the invention provides a simple torque feedback control that is not even remotely suggested by any of the references of record, and that achieves the feedback control without the need for expensive and complex electronic sensors and feedback circuitry.

In contrast, so long as the motor is connected to the load and running, the motor of Korthaus has a predetermined rotor position. Korthaus does not even consider using **reverse torque feedback to adjust motor characteristics**. Instead, Korthaus's use of reverse torque is limited to activating a clutch to disengage the rotor, followed by shutting off the motor.

Because the motor of Korthaus has an axially fixed stator and lacks dynamic adjustment of characteristics, displacement of the rotor occurring only when an overload occurs, for the purpose of motor shut-off rather than changing motor characteristics, it is respectfully submitted that the Korthaus patent does not anticipate the claimed invention, and withdrawal of the rejection under 35 USC §102(b) is respectfully requested.

3. Rejection of Claims 22, 26-28, 31-33, 37, 38, and 40-42 Under 35 USC §103(a) in view of U.S. Patent Nos. 6,700,268 (Joong) and 6,249,069 (Krueger)

This rejection is respectfully traversed on the grounds that the Joong and Krueger patents both fail to disclose or suggest displacement of the rotor relative to the stator *as the shaft rotates*, as claimed, for the purpose of varying electrical characteristics of the machine. Instead, the Joong patent discloses a rotor that splits or comes together to vary the electrical characteristics of the machine, ***in response to an actuator 25 rather than to reverse torque, as claimed.***

As explained in col. 7, lines 59-64, of the Joong patent, "*According to this embodiment, the axial position of the second rotor portion 20B relative to the first rotor portion 20A can be changed suitably by a rotor position changing means constituted by a combination of the stopper*

24 and the actuator 25." An actuator is used in each of the embodiments disclosed in the Joong patent. Thus, Joong does not disclose the principle of using reverse torque to change the electrical characteristics of the machine, *i.e*, direct mechanical feedback, but rather requires control of an actuator. As a result, the machine disclosed in the Joong patent is fundamentally different than that of the claimed invention.

This deficiency is not made up for by the Krueger patent, which also teaches use of an actuator to change the relative position of rotor and stator. Furthermore, Krueger does so by displacing the *stator* rather than the *rotor*. The actuator of Krueger is referred to as a control assembly 46, and it actually moves a stator sleeve 44 rather than the rotor, as explained in col. 4, lines 37-39 of the Krueger patent. Thus, Krueger appears to *teach away* from the claimed invention, rather than suggesting modification of the actuator-driven rotor of Joong in the manner claimed.

Because *neither* the Joong patent nor the Krueger patent discloses a reverse torque-displaced rotor, as claimed, but to the contrary teach an actuator-driven rotor (Joong) and an actuator-driven stator (Krueger), withdrawal of the rejection under 35 USC §103(a) is respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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